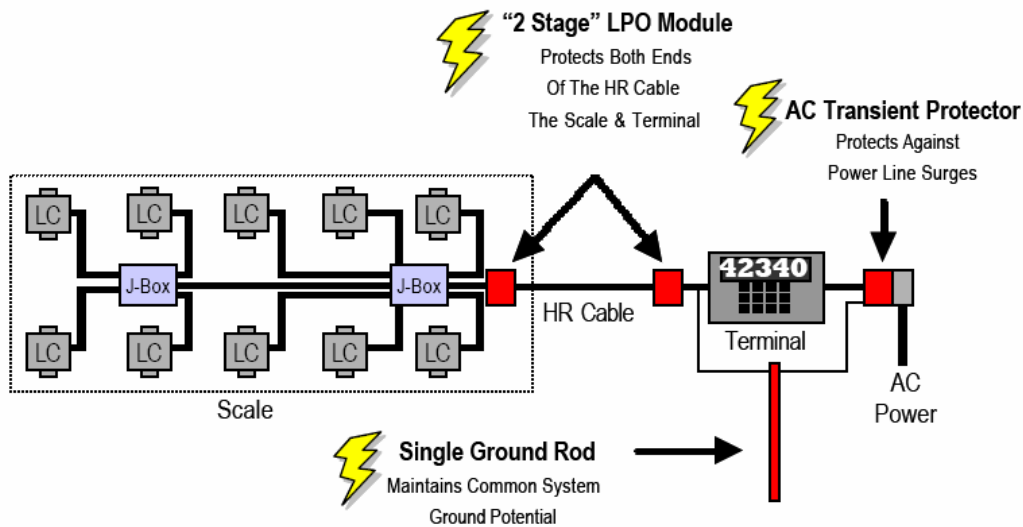


## StrikeShield™

### Lightning Protection System for Analog Scales

#### StrikeShield™ Lightning and Surge-Voltage Protection for Analog Scales

METTLER TOLEDO is the recognized leader in protecting weighing systems against the harmful effects of lightning and surge voltage. Years of experience have taught us not to cut corners when it comes to lightning protection. The StrikeShield™ lightning protection system for analog scales incorporates a unique Two-Stage LPO Module that delivers proven protection. In combination with our AC Transient Protector and single-point grounding system, it provides complete 360-degree protection for analog scales.



#### Two-Stage Protection: How does it work?

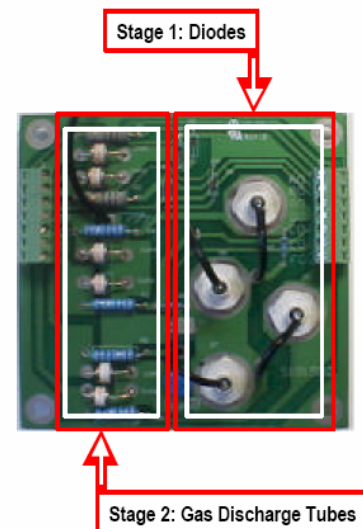
There is no single device that can protect sensitive analog load cell systems adequately. Depending on the type and severity of a surge, the protection system must act quickly to limit the initial spike and be robust enough to withstand the lingering effects. The METTLER TOLEDO Two-Stage LPO Module accomplishes both.

**Stage 1:** Zener diodes deliver the first line of defense, acting quickly to dissipate the initial surge of energy. In some cases this first stage of protection will deflect enough of the surge to eliminate the need for the second stage.

**Stage 2:** If the surge is of sufficient magnitude and duration to outlast the first stage of protection, then the second stage of protection goes to work. Gas-discharge tubes sense the building energy and take over where the diodes leave off. Once engaged, the gas-discharge tubes take the brunt of the force and provide the staying power to protect the system throughout the entire event.

**Protecting Both Ends of the Cable:** The home run cable that connects the scale to the terminal is an important potential target for the introduction of a surge into the system. The longer the cable, the more susceptible the system is. Protection at the scale does little to protect the terminal from damage coming from this path. That is why our StrikeShield™ system for analog scales features Two-Stage LPO Modules at each end of the home run cable.

**AC Transient Protector:** Damage is often caused by surges from the power line. The AC Transient Protectors provided in our StrikeShield™ system have been developed specifically for those types of surges. The 120VAC version has a convenient wall plug and combines thermal fusing with internal circuitry that completely cuts the AC power to connected equipment during an event, providing an excellent safeguard against extreme surges. Diagnostic lights provide positive indication of "Protection OK," "Ground



**2 Stage Analog LPO Module**

# StrikeShield™

## Lightning Protection System for Analog Scales

OK," and "Line Fault" conditions. The 240VAC version is hardwired for flexible installation anywhere in the world. It has a rugged aluminum enclosure and uses bi-polar silicon avalanche diode technology to provide fast-reacting, non-degrading protection. Metal oxide varistors are also used for back-up protection against massive surges. "Power" and "System Alert" indicators are provided. Both the 120VAC and 240VAC AC Transient Protectors can be used in 50-Hz or 60-Hz applications.

**Single-Point Grounding System:** Dissipating a surge to ground is critical. The more ground points there are in a system, the more opportunity there is for damage. Multiple ground points provide potential paths for a surge to enter the system from a near strike or from a dissipated surge that exits from one ground point only to re-enter the system through another ground point nearby.

**Maintenance-Friendly StrikeShield™ Two-Stage LPO Module:** Most manufacturers' lightning protection systems integrate some protective components (such as gas-discharge tubes) into the printed circuit board that is inside the junction box. If those components need to be replaced because of a surge, then the entire printed circuit board must be replaced. When a new printed circuit board is installed, important calibration values (such as load cell and sectional/corner trim settings) are lost and the scale must be re-calibrated. That leads to higher maintenance costs and extended downtime for the user.

StrikeShield™ Two-Stage LPO Modules offer a better design that is easier to maintain. The protective components are housed in an enclosure that is separate from the weighing system. Because there is no need to open junction boxes to check protection and no loss of calibration values after a surge, the StrikeShield™ system provides more uptime and a lower overall total cost of ownership.

Contact your local [METTLER TOLEDO](#) authorized distributor or sales office for more information.